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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/008,731 | 11/07/2001 | Shiping Liu | RSW920010184US1 | 6121 |

7590 01/08/2007

IMB CORPORATION
INTELLECTUAL PROPERTY LAW
DEPT. IQOA/BLDG. 040-3
1701 NORTH STREET
ENDICOTT,, NY 13760

| EXAMINER | |
|---|---|
| LOFTUS, ANN E | |
| **ART UNIT** | **PAPER NUMBER** |
| 3694 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 01/08/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/008,731 | LIU ET AL. | |
| | Examiner | Art Unit | |
| | Ann Loftus | 3694 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *07 November 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-10 are rejected under 35 U.S.C. 101 due to a lack of a tangible result.

Under the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, an eligible invention either "physically transforms an article or physical object to a different state or thing, or ... produces a useful, concrete and tangible result." If a claim is not directed to an article or physical object, then a relevant test for eligibility is whether the claimed invention as a whole is limited to a useful, concrete and tangible result.

The MPEP 2106 IV C (2) gives the following guidance to judge whether a result is useful, tangible and concrete:

- Useful – must be specific, substantial and credible and specifically recited in the claim. If the claim is broad enough to not require a practical application, it must be rejected.
- Tangible – must have a "real-world" result, not abstract.
- Concrete – must have a result that is substantially repeatable or the process must substantially produce the same result again.

The results of claims 1-10 could include a subset of associations, a subset of customers identified by the associations, and a marketing strategy. There are no

physical assets, nor necessarily changes in the physical world as a result of the method as claimed. The results are abstract and not tangible, thus the invention is not directed to eligible subject matter.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-30 are rejected under 35 U.S.C. 122, second paragraph.

Claims 1, 11 and 21 are rejected under 35 U.S.C. 122, second paragraph due to the language "such that the subset of associations determined ... to generate a profit when cross-sold." The associations may be expected or predicted to increase profits, but profitability cannot be positively determined before the fact due to unexpected costs and sales that may vary from predictions. Profitability may be assessed differently even after the fact according to which costs and which revenues are included in the calculation, or the time period under consideration. Could a potential infringer defend by changing profitability calculations? The answer is unclear, therefore the metes and bounds of the patent protection desired are unclear, and therefore the claims are rejected.

Claims 2-10, 12-20 and 22-30 inherit the limitations of the parent claims, and are therefore also rejected as above.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6836773, application filed 27 Sept, 2001, hereafter referred to as Tamayo.

As to claims 1, 11, and 21, Tamayo teaches processing data to identify associations of products in paragraph 22 of his detailed description. He teaches using the results for potential cross selling in paragraph 28. Tamayo teaches using data mining for profitability analysis in paragraphs 22 and 28. Tamayo also teaches in paragraph 185 weighting recommendations according to business rules, with an example using profit to identify a high-value recommendation. His recommendations can be based on associations but he allows for other paradigms, as well.

Tamayo does not teach identifying associations that are expected to generate a profit when cross-sold. His example would result in recommendations or associations weighted by profitability and likelihood of sale, rather than a cutoff point of zero profit, below which items would not be cross-sold. Official notice is taken that deciding not to sell unprofitable items is old and well known. It would have been obvious to a person of ordinary skill in the art at the time of the invention, after identifying the value of the recommendations, to eliminate those where no profit was expected, thus leaving a

subset of associations expected to generate a profit when cross-sold, in order to make more money on the cross-sales.

As to claims 2, 12, and 22, Tamayo teaches generating association rules using knowledge processing techniques in paragraph 22.

As to claims 3, 13, and 23, Tamayo teaches association analysis in paragraph 22.

As to claims 4, 14, and 24, Tamayo teaches calculating profitability in paragraphs 22, 28, and 185.

As to claim 5, 15, and 25, Tamayo teaches profitability analysis in paragraphs 22 and 28. Tamayo teaches classification and clustering by various attributes in paragraphs 15 and 16. Tamayo does not teach profit level categories. Official notice is taken that identifying high profit items, mid profit items, low profit items, and giveaways/incentive items is old and well known. Rewards for salespeople often vary according to the profit category of the item sold. It would have been obvious to a person of ordinary skill in the art at the time of the invention, that products and services could be associated with profit level categories in order to push items according to profit level and put more effort behind high profit items.

As to claims 6, 16, and 26, this is a combination of using profit level categories and eliminating the unprofitable. Using profit level categories would have been obvious as above. It would have been obvious to a person of ordinary skill in the art at the time of the invention to eliminate the unprofitable categories, leaving a subset of associations

which have products or services that are associated with profitable profit level categories, in order to make more profit when cross-sold.

As to claims 7, 17, and 27, Tamayo teaches weighting associations based on profitability and likelihood of sale. Tamayo teaches that some associations have little value to the enterprise in paragraph 121 and 122. Tamayo does not teach using profit level categories that meet acceptable criteria. Using profit level categories would have been obvious as above. Official notice is taken that deciding not to sell items in certain profit categories is old and well known. For example, items where profit is delayed too long after the sale may be discontinued. An association of such a product with a group of potential customers would be discarded as low-value. It would have been obvious to a person of ordinary skill in the art to eliminate products or services associated with profit level categories that did not meet acceptable criteria, thus leaving a subset with profit level categories that meet acceptable criteria.

As to claims 8, 18 and 28, the specification notes in the third paragraph of the Description of Related Art that many financial institutions identify customers for marketing cross-selling opportunities based on subsets of associations.

As to claims 9, 19 and 29, Tamayo teaches generating a marketing strategy based on the subset of associations. He discusses personalization as a marketing strategy in paragraph 32.

As to claims 10, 20, and 30, Tamayo discussed support, confidence and lift in paragraph 123 as features of association analysis. Paragraph 121 gives an example of a correspondence between two products. Tamayo does not specifically include a

measure of profitability in his association rules. However, given that the same tools are used for profitability analysis, and that profit data is available and of high concern, and that the "best" associations will need to be identified, and that the best ones are actionable reliable high profit associations, it would be obvious to a person of ordinary skill in the art at the time of the invention to include a measure of profitability as one of the attributes in the association analysis in order to select the best subset of associations.

## *Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ann Loftus whose telephone number is 571-272-7342. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on 571-272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AL
12/29/06

MARY D. CHEUNG
PRIMARY EXAMINER